

Patent PD-89418A



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

DONALD C. D. CHANG, et al.

Serial No. 09/973,270

Filed: October 5, 2001

For:

**BEAM FORMER** 

SAMPLING TECHNIQUE FOR DIGITAL :

Examiner: Not Known

Date: November 5, 2001

Group Art Unit: Not Known

RECEIVED

DEC 5 - 2002

INFORMATION DISCLOSURE STATEMENT

Technology Center 2600

Honorable Commissioner of Patents Washington, D.C. 20231

Dear Sir:

The references cited on the enclosed form PTO-1449 (copies of references enclosed) may be material to the examination of the above-identified patent application and are, therefore, being submitted in compliance with the duty of disclosure defined in 37 CFR 1.56.

This Information Disclosure Statement is not to be construed as a representation that a search has recently been made, that additional information material to the examination of this application does not exist, or that this citation constitutes prior art.

> Respectfully submitted. DONALD C. D. CHANG, et al.

Vijayalaksumi D. Duraiswamy Reg. 31,505

Attorney for Applicants

**HUGHES ELECTRONICS CORPORATION** Bldg. 001, M.S. A109 P.O. Box 956 El Segundo, CA 90245-0956 (310) 662-9919

I hereby certify that this correspondence is being deposited with the sufficient postage on the date indicated below in an envelope and add 20231 November 5, 2001  ( Date of Deposit)	e United States Postal Service, as first class mail with Iressed to: Commissioner of Patents, Washington, D.C.
Vijayalakshmi D. Duraiswamy Name of Depositor	
Vijayalakskim D. Duraiswamy	November 5 , 2001  Date of Signature



Not Known

Page I of 3 Rechnology Co. 2002 Serial Number: 09/973,270 INFORMATION DISCLOSURE STATEMENT Applicant **BY APPLICANT** DONALD C. D. CHANG ET. AL (Use several sheets if necessary) Filing Date Group

# October 5, 2001 **U.S. PATENT DOCUMENTS**

Document Number	Date	Name	Class	Sub Class
2,470,787	05/24/49	Nosker	342	12
3,384,891	05/21/68	Anderson	343	6.5
3,544,995	12/01/70	Bottenberg et. al	342	46
3,720,953	03/13/73	Ajioka	343	771
4,161,730	07/17/79	Anderson		
4,161,734	07/17/79	Anderson	343	100
4,359,733	11/16/82	O'Neill	343	6.5
4,613,864	9/23/86	Hofgen	343	357
4,635,063	01/06/87	Chang et. al	342	380
4,819,227	4/ 4 /89	Rosen	370	75
4,897,661	1/30/90	Hiraiwa	342	457
4,979,170	12/18/90	Gilhousen et al.	370	104.1
4,994,809	2/19/91	Yung et. al	342	100
5,006,855	4/9/91	Braff	342	357
5,077,562	12/31/91	Chang et. al	342	368
5,099,245	3/24/92	Sagey	342	357
5,111,209	5/5/92	Toriyama	342	357
 5,126,748	6/30/92	Ames et. al	342	353
5,218,619	6/8/93	Dent	375	1
5,233,626	8/3/93	Ames	375	1
5,278,863	1/11/94	Briskman	375	1
5,319,673	6/7/94	Briskman	375	1
5,387,916	2/7/95	Cohn	342	44
5,410,314	4/25/95	Frush et. al	342	26
5,444,450	8/22/95	Olds et. al	342	357
5,485,485	1/16/96	Briskman et. al	375	200
5,525,995	6/11/96	Benner	342	90
5,550,809	8/27/96	Bottomley et. al	370	18

### **FOREIGN PATENT DOCUMENTS**

Document Number	Date	Name	Class	Sub Class
EP 0335 558	4/10/89	McCaughan et. al		
JP 3-291584	12/20/91	Toyota		
JP 09026328	01/28/97	Tokimec Inc.		
JP 2-28580		Mitsubishi Electric Corp/ (Yamazaki)		
JP 4-27887		Corresponding to USP 5,111,209 (copy provided)		

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)

Examiner			Date Consid	lered		

Page 2 of 3 Pocket Con 2002 Form PTO-1449 Serial Number: 09/973,270 INFORMATION DISCLOSURE STATEMENT **Applicant** BY APPLICANT DONALD C. D. CHANG ET. AL (Use several sheets if necessary) Filing Date Group October 5, 2001 Not Known

## **U.S. PATENT DOCUMENTS**

	Document Number	Date	Name	Class	Sub Class
	5,555,257	9/10/96	Dent	370	95.1
	5,572,216	11/05/96	Weinberg et al.	342	357
	5,592,471	1/7/97	Briskman	455	52.3
	5,594,941	1/14/97	Dent	455	13.4
	5,612,701	03/18/97	Diekelman	342	354
	5,644,572	7/1/97	Olds et. al	370	324
	5,739,785	3/14/98	Allison et. al	342	357
	5,790,070	08/04/98	Natarajan et al.	342	354
	5,810,284	9/22/98	Hibbs et. al	244	13
	5,856,804	01/05/99	Turcotte et al.	342	371
	5,864,579	1/26/99	Briskman	375	200
	5,903,549	05/11/99	Von der Embse et. al	370	310
	5,909,460	6/1/99	Dent	375	200
	5,920,284	7/6/99	Victor	342	357.01
	5,944,770	8/31/99	Enge et. al	701	707
	5,945,948	8/31/99	Buford et. al	342	457
	5,949,766	09/07/99	Ibanez-Meier et.al	370	`316
	5,969,674	10/19/99	Von der Embse et. al	342	357.17
	5,973,647	10/26/99	Barrett et. al	343	713
W	6,111,542	08/29/00	Day et al.	342	359
	6,138,012	10/24/00	Krutz et. al	455	427
	6,147,658	11/14/00	Higashi et. al	343	853
	6,151,308	11/21/00	Ibanez-Meier et al.	370	316

#### **FOREIGN PATENT DOCUMENTS**

Document	Date	Name	Class	Sub
Number				Class
JP 07146995A	06/06/95	Nippondenso Co. Ltd. (Fumiaki)		
JP 08015405A	01/19/96	NEC Corp. (Toshiaki)		
JP 09113600A	05/02/97	Aqueous Res.KK (Hiroki)		
JP 10090391A	04/10/98	Sharp Corp. (Koichi et. al)		
GB 2306 827A	05/07/97	Intl. Mobile Satellite Org		
GB 2271 902A	10/20/93	Caterpillar		

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)

T	 		
il I			
ıl i			
1			
		,	
Examiner	1 -	Date Considered	
ı Examiner	1 1	Jate ( :nneidered	
LXCIIIIIO	, ,	aic considered	
	1		
4			

Form PTO-1449 Serial Number: 09/973,270

INFORMATION DISCLOSURE STATEMENT

BY APPLICANT

(Use several sheets if necessary)

Doctor 2002 PD-894H8 Conter 2000 Page 3 of 3 DONALD C. D. CHANG ET. AL

Group

Not Known

# U.S. PATENT DOCUMENTS

October 5, 2001

Filing Date

Applicant

Document Number	Date	Name	Class	Sub Class
5,917,447	06/29/99	Wang et. al	342	383
5,017,927	05/21/91	Agrawal et. al	342	371

## FOREIGN PATENT DOCUMENTS

-	 				
	Document	Date	Name	Class	Sub
-	Number				Class

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)

	Teles J. et. al, "Overview of TDRSS" Orbit Determination and Analysis, PSD Meeting, Cospar Technical Panel on Satellite Dynamics, 13th Cospar Scientific Assembly, Hamburg, Germany, July 11-21, 1994, Advances in Space Research, pp. 67-76
	Bricker, P. et. al, "Integrated Receiver for NASA Tracking and Data Relay Satellite System", MILCOM 90, A New Era, 1990 IEEE Military Communications Conference, Monterey, CA USA, Sept. 30-Oct. 3, 1990, pp. 1-5.
	Dunham, J. B. et. al, "Onboard Orbit Estimation with Tracking and Data Relay Satellite System Data", Journal of Guidance, Control and Dynamics, July-August 1983, USA, col. 6 NR.4, pp. 292-301.
	Bethke, K.H., "A Novel Noncooperative Near-Range Radar Network For Traffic Guidance and Control on Airport Surfaces, IEEE Transactions on Control Systems Technology, vol. 1, no. 3, Sept. 1993.
	Doc 9524 FANS/4-WP/76, International Civil Aviation Organization, Special Committee on Future Air Navigation Systems, Fourth Meeting, Montreal, 2-20, May 1988, Report, pp. 3.2B-2 & 3.2B-3.
	Suzuki, R. et. al, :Mobile TDM/TDMA System With Active Array Antenna*, Global Telecommunications Conference, 1991; Globecom '91, vol. 3, Dec. 2-5, 1991, pp. 1569-1573
	Chan, K. K., et. al, "A CIRCULARLY POLARIZED WAVEGUIDE ARRAY FOR LEO SATELLITE COMMUNICATIONS", Antennas and Propagation Society, 1999, IEEE International Symposium, vol. 1, 11-16 July 1999, pp.154-157.
	Oodo, M., et. al, "ONBOARD DBF ANTENNA FOR STRATOSPHERIC PLATFORM", 2000 IEEE International Conference on Phased Array Systems and Technology, Proceedings, May 21-25, 2000, pp. 125-128.
	Yokosuka Research Park, "THE FIRST STRATOSPHERIC PLATFORM SYSTEMS WORKSHOP", May 12-13, 1999, pp. 1-216.
	Chiba, Isamu et. al, "Digital Beam Forming (DBF) Antenna System for Mobile Communications", IEEE AES Systems Magazine, Sept. 1997, pp. 31-41.
	Miura, Ryu et. al, "A DBF Self-Beam Steering Array Antenna for Mobile Satellite Applications Using Beam-Space Maximal-Ratio Combination", IEEE Trans. On Vehicular Technology, vol. 48, no. 3, May 1999, pp. 665-675.
	Sato, Kazuo et al., "Development And Field Experiments of Phased Array Antenna For Land Vehicle Satellite Communications", IEEE Antennas and Propagation Society International Symposium, 1992, July 1992, pp. 1073-1076.
	Sakakibara, Kunio et. al, "A Two-Beam Slotted Leaky Waveguide Array for Mobile Reception of Dual-Polarization DBS", IEEE Transactions on Vehicular Technology, vol. 48, no. 1, Jan. 1999, pp. 1-7
Examiner	Date Considered